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Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ..... Office No. 2269

LOCALITY

State Mass

General locality Coast of Mass.

Locality Manchester to Gloucester

1896

~~194~~

CHIEF OF PARTY

Lt. Com'd. A. Dunlap U.S.N.

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U. S. COAST AND GEODETIC SURVEY.

Gen. W. W. Duffield, Superintendent.

State: Mass.

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 2269.

LOCALITY:

Coast of Mass.,
Manchester
to
Gloucester.

1896.

CHIEF OF PARTY:

Lieut. Comdr. A. Dunlap, U. S. N.

FORM 65.—Field Letter.

Write me at: Station C, Baltimore, Md.

Telegraph me at: Woodall's Ship yard, Foot of Aliceanna Street, Locust Pt, Baltimore, Md.

My Express Office is: " " " " " " " " " " "

U. S. COAST AND GEODETIC SURVEY,

Steamer Blake,

29th December, 1896.

2—547 #151.

Descriptive Report.

To The Superintendent

U. S. Coast and Geodetic Survey,

Washington, D.C.

Sir:

1. I have the honor to submit the following descriptive report of the hydrographic work executed by the party under my command during the months of August, September and October under your instructions, dated the 8th of August, 1896, and the detailed instructions of the Hydrographic Inspector, dated the 10th of August, 1896.

2. The following projection, bearings, tidal data, etc., were received from the Hydrographic Inspector for the execution of this work, viz.:

One (1) projection, scale 1/10000, Coast of Massachusetts between Baker Islands and Gloucester.

One (1) sheet, description of triangulation stations falling in the above projection.

Six (6) descriptions of tidal bench marks off

the Coast of Massachusetts.

One (1) sheet, Grographic positions of Δ's falling on projection

One (1) tracing of Gloucester and vicinity from work of Coast Surv in 1894.

One (1) tracing from Hydrographic sheet 2226 by Coast Pilot Reed in 1895.

One (1) copy of chart No 335, showing location of standpipe at Manchester.

One (1) sheet, Angles taken to locate the standpipe at Manchester.

3. Some discrepancies were found in the angles taken from the triangulation stations at Baker's Island and Great Misery and they were spoken to the Hydrographic Inspector on the 19th and 24th of August last. The angles taken from the triangulation stations on Baker's Island and Eastern Point more nearly agreed and gave better conditions and were assumed to be correct.

4. No angles could be taken from Manchester

Church on account of being unable to make a point sufficiently elevated from which other stations could be seen, this due to the growth of trees and foliage.

The triangulation station on Little Island could not be found and it was not found by the party of Lieut. Peck in 1895. A signal, however, was erected in what was considered to be the same place as that used by Lieut. Peck. The loss of this triangulation point is probably due to disintegration of the granite rock in which the bolt was placed. The signals erected by Lieut. Peck in 1895 has been destroyed, with few exceptions, probably by the severe gales of the past winter.

5. On the 30th of September I made a special report of dangers to navigation which fishermen had kindly reported to me while making inquiries among them; a supplementary report was made on the 2nd of October in regard to the location of the buoys and beacons taken at the entrance to Gloucester Harbor; and a report was also made on the 17th of October in regard to the proper name of the ledge located off Magnolia, Mass.

6. The survey was begun with a system of right angled intersection of lines 100 meters apart,

but the ground was so broken and soundings so irregular that a very close development with double diagonal intersections was carried over many of the shoal places. Off shore where the water was quite deep this was not considered so important.

7. The fishermen about Manchester, Magnolia and Gloucester gave a great deal of assistance and those from Magnolia often put themselves out in going along, at my request, in our boats or their own to locate rocks ledges and shoals. No charge was ever made for services of this kind and I am indebted to them for much valued information and especially to Capt. Wm S. Douglass of Magnolia, Mass. I would suggest that when the chart of this locality is finished that copies be sent to the following named fishermen who gave information and assistance: Capt. Wm S. Douglass, Messrs John B. Knowlton, Charles Lewis, Henry K. Story, John G. Burnham and J. W. Nichols of Magnolia, Mass.; Edward Heath and Charles Sargent of Manchester, Mass.; Capt Marchant of Fresh Water Cove, Gloucester; and Wm. Abe. Bates of Rocky Neck, Gloucester, Mass.

8. The charts of this locality give few

names of prominent objects, rocks, ledges, points, etc, but fishermen and people of the vicinity have names for each which, as a general rule, have been handed down from one generation to another. I am greatly indebted to Mr. Wm H. Dappan of Manchester, Mass, who is the Surveyor of the town, a former State Senator and the Assessor and historian of the Manchester Historical Society, for a chart showing the names of many of the points, beaches, heads and coves, and for much other valuable information. He states that it has been and is the aim of the society of which he is president and historian to retain the original names to each locality. This chart is enclosed with other data relating to the survey and the names have been assigned to their proper places in the projection subject to your approval. I would suggest that when the chart is finished that a copy be sent to Mr. Dappan.

9. In two instances names, according to fishermen and others, have been improperly placed on the old Coast Survey charts, viz: Little Egg Rock instead of being in close proximity to Great Egg Rock where there is a bunch of rocks above water, is as-

assigned to a rock 7/8 of a mile W 5/8 S which fishermen say is called Rock Shoal. The other name is that of the cove at Magnolia marked on the Coast Survey charts as Kettle Cove. According to Mr Jappan and fishermen about Magnolia this name was given to the cove back of Goldsmith's Point as marked on the chart of Manchester given me by Mr Jappan. It is recommended that the names be assigned as above and the name of the cove now called Kettle Cove be changed to Magnolia Cove or Magnolia Harbor, as it is well known to yachtsmen and fishermen by that name already.

10. Gray Beach, Black Beach and White Beach. The beach in Magnolia Harbor is now known then as Crescent Beach, but the proper name according to Mr. Jappan is Gray Beach not Grays Beach as marked on his chart; and by the same authority the one in the next cove to the Westward is Black Beach and the one in the cove beyond Crow Island, the next one to the Westward, is White Beach.

11. Cedar Point. According to Mr. Douglas and others in Magnolia the name of the point on which Magnolia Islands is Cedar Point. It derives its name

from a large cedar tree which formerly stood there. In several instances lately the point has been known by the name of the person who built the last house near its extreme end, as "Goodwin's", Sargent's and McClure's Points". On a road map it is marked "Magnolia Point."

12. Pepplestone Beach. The stony beach in the bight just to the Eastward of Cedar Point is known as Pepple-stone Beach from the character of the stone forming it. They are worn round and smooth and have been thrown up by the action of the sea; so many have been carried away by visitors that the owner has forbidden their removal.

13. Rafes Chasm. The chasm in the cliff of Norman's Woe is known as Rafes Chasm.

14. Goldsmith's Point. This name is properly placed, although the road map seems to give the name as "Coolidge's Point."

15. Crow Island. The small, high, rocky, promontory, to the Westward of Goldsmith's Point, on which is located ⊙ Pole is known as Crow Island. It was probably an island at high water, at one time, for the road passes over a a bridge where it is flooded at

Extreme tides. Fishermen state this is the name handed down to them and that it has never been known to them by any other name.

16. Town Head. To the Westward of White Beach, as placed on the chart of the Tappan, is a high, wooded bluff called Town Head, from the fact that it was a part of the town farm of Manchester.

17. Graves Beach. The name of Graves Island is properly placed and the sandy beach immediately to the northward and Westward should be called Graves Beach as shown on the chart of Jn. Tappan.

18. Eagle Head. The high rocky promontory to the Westward of Graves Beach is known as Eagle Head as shown on the chart of Jn Tappan.

19. Old Neck or Singing Beach. The beach to the Westward of Eagle Head is shown on the chart of Jn Tappan as Old Neck or Singing Beach. It is directly to seaward of Manchester and the Masconomo Hotel. The latter was located by auto taken from seaward.

20. Ballarach Cove. The cove to the Westward of Singing Beach is properly known as Ballarach, but this has been corrupted by fishermen to

Billy Cake.

21. Pickworth's Point. The point just outside of Ballarack Cove to the Westward is known as Pickworth's, so called from one of the original settlers, John Pickworth, who owned this point.

22. Lobster Cove. The cove to the Westward of Pickworth's Point is known as Lobster Cove.

23. Little Salt Rocks. The small group of rocks inside of Salt Rock, and off Shipping Beach, is known to fishermen as Little Salt Rocks.

24. The above names, with four exceptions, are those taken from the chart of the Tappan and are those by which they are known to the inhabitants of the locality.

25. Muckatuc ledges, rocks, etc. The names, locations and characteristics of muckatuc ledges, rocks, etc, which have been developed in the course of the survey follow. These names are those by which they are known to fishermen and have been handed down from one generation to another and I would recommend their retention.

26. A rocky ledge, without name, was developed about 650 metres S by W ½ W from Hor-

Mans Nor Rock and the same distance SE ½ S from Homans Nor, with a least depth of 4½ fathoms and deeper water inshore, 7 to 10 fathoms. There are two shoal spots, the least water being on the one to the Eastward; the one to the Westward having from 5 to 6 fathoms over it. The sea breaks here in bad weather and sometimes very unexpectedly in moderate weather. Fishermen call these breakers "blind breakers" from this fact and they are considered very dangerous. To the fishermen these shoals, when the sea breaks, are simply known as "Outer" and "Outer Shoal Water". Fishermen set their lobster pots here as well as on all the ledges along the coast near shore.

27. Popple-stone Ledge. This ledge has already been reported.

28. Ragged Ledge. This ledge runs out to the Southward of Cedar Point, Magnolia, about ⅜ of a mile with a least depth of 7.4 fathoms of water

- trac its outer end. The depths in this locality are very irregular and the bottom is of shale rocks.

29. Middle Ground. This ledge lies about one mile SSE of Kettle Island, is of very irregular shape, about 750 metres East and West, and about the same North and South, with depths varying from $8\frac{3}{4}$ to 15 fathoms. It is a local fishing ground and the bottom is shale rocks with coarse sand, pebbles and black specks.

30. Kettle Island Ledge. This ledge lies one half mile outside of Middle Ground in the same direction from Kettle Island, SSE; is of irregular figure, about 850 metres by 1200 metres, and shoals from 20 to 10 fathoms. A circular spot about 400 metres in diameter varies in depth from 10 to 17 fathoms with a least depth of 9.2 fathoms.

31. One half mile SSE of Kettle Island Ledge is another small ledge, about 400 metres North and South by 200 metres East and West, with depths ranging from 20 to 12.2 fathoms, the least depth being at its Southern end. The bottom is of very shale rock a hard was lost on it, with fine sand and mud.

Fishermen report that just outside of this, but off the projection, is another ledge called Saturday Knight's Shoal.

32. Bumkan's Rocks. This rocky ledge lies about 1 7/8 miles SSW 1/2 W from Eastern Point and about the same distance SE 3/4 S from Kettle Island, and 3/4 of a mile SE by E 1/2 E from Kettle Island Ledge. It is about 630 metres North and South by 375 metres East and West, very irregular in shape with two shoal patches, one at the North and the other at the South end; the least water being at the Southern end, 8.4 fathoms. Bottom sharp rocks, sand, mussels, with coarse sand & mud.

33. Inner Bumkan's Rocks. This ledge lies one half mile E by N from Bumkan's Rocks, is of small extent and of irregular shape, with from 14.2 to 15 fathoms of water over it. Bottom rocky, coarse sand, mud and pebbles about.

34. Boulders on the Bar. Along the bar, on the seaward side of Magnolia Cove Harbor are a number of boulders, varying in size from that of a bucket to a hogshead, with depths of water from 4.6 to 12.2 feet over them with 3 fathoms alongside. These are covered with kelp.

35. David's Rock. This rock lies near the shore on the Northern edge of the Channel leading into Magnolia Harbor. It stands 4½ feet out of water, at low water, with 10 feet alongside, and is covered with kelp. It was so called in division from the name of a fisherman who ran on it in his dory, its position being so well known. Fishermen place a piece of gas pipe in a hole drilled in the top of this rock and it acts as a spindle.

36. Harbor Ledge. This ledge lies off the wharf, in Magnolia Harbor, in a Southeasterly direction from it, with a line of soundings along its shoalest part showing 6½, 8.4, 12 and 13 feet in its general direction with 3 fathoms about it.

37. Buck Rock. This rock lies inside the wharf at Magnolia and about 10 meters from it. It is awash in Extreme tides with 4½ feet alongside and it takes its name from the fact that deers often buck against it when going to and from the wharf.

38. Mill Ledge. A cluster of boulders, of small extent, off Goldsmith's Point, the boulders ranging in size from half a bowlder to a hogshead. Low water

6.7 feet with 17 feet alongside.

39. Cove Ledge. This is of small extent and lies in the southern part of the harbor with a least depth of 12 feet and 15, 16, 17 and 18 feet about. When on a very heavy swell or sea runs into the harbor from at E or SE it breaks here.

40. Stone Ledge. A rocky ledge lying NW of Kettle Island and NE of Great Egg Rock with a least depth of 8 fathoms. It was so called after a fisherman, Mr Otis Stone of Swansboro, who used to fish on it about 75 years ago.

41. Raven Tail Ledge. This rocky ledge lies a short distance N 2 from the inner end of Great Egg Rock with a least depth of 16.9 ft. with 4 and 5 fathoms around it. It was so called from the fact that fishermen generally caught a few cod here when they failed elsewhere.

42. Middle Rock. This is the name of a large rock, just clear of the water and a few feet out of water at all times. It lies SW of Goldsmiths Point, is reddish brown in color and takes its name from the shape of its top.

43. Old Spirit Rock. This lies in line be-

Town Saddle Rock and Brow Island and about half way. It is covered with and surrounded by kelp and has 1½ feet of water over it at mean low water with 7 feet alongside. During extreme tides it comes out of water.

44. Brow Island Rock. This rock lies SS W of Brow Island about 220 meters. It has 2½ feet of water over it at mean low water with 15 feet alongside. It is covered with and surrounded by kelp and during extreme tides shows above water.

45. Kitfield Ledge. This ledge lies SW of Brow Island with a least depth of 2½ fathoms. It is covered with kelp and Brow Island Rock is situated on it. Its name was derived from the fact that an old woman, Granny Kitfield by name, used to fish for cod upon it with much success.

46. The mackerel ledge lies N E of Little Rock inside of Goat Egg, with three boulders, two of which have been known to show at extremely low tides. The soundings show 4.6, 5.5 and 5.6 feet of water over them at mean low water. The ledge runs in a Southwesterly direction and is covered with kelp. A private buoy is maintained on its Eastern end by Wm Edwards Heath of

Manchester, who owns fishing nets at the Northern end of Graves Island.

47. At ledge with 3 fathoms 5½ feet on it and 4, 5 and 6 fathoms about it was developed S.S.W. of Salt Rocks and East of Pickets Ledge.

48. At large ledge was developed directly South of Pickets Ledge with a least depth of 11 feet with soundings of 12, 13½, 15 and 17 feet shallow over its surface. It is of quite large extent and runs in the direction of Gales Ledge and could be considered either a part of that or of Pickets Ledge. It is covered with kelp.

49. Paddocks Rock. This ledge has already been reported.

50. Little Rocks, Bookoo and Pickets Ledges were fully developed. Little Rocks with the ledge surrounding it is covered with kelp and lies N.N.W. of Great Egg. A passage is found between but is generally obstructed by fishing nets.

51. Coles Ridge. Near the S.W. corner of the projection, outside of the Salem Channel, is a ledge of sharp rocks known as Coles Ridge. It has a least depth of 12 fathoms over it with a hard bottom, fine gray sand & mud with moss on the rocks.

52. The Character of the bottom. The bottom along this coast, as developed by the survey and from information gathered among fishermen, shows that the whole area is studded over with granite boulders varying in size from a cobble-stone to 15 or 20 feet in diameter. The ledges are formed of these boulders of various sizes and the great variation in depths is due to their presence. Inshore and off for a mile and a half the bottom is hard with coarse grey sand, gravel, pebbles and broken shell to the Eastward; while to the Westward, and out for two miles or more, it is hard with fine grey sand, broken shells and black specks. Outside of this the bottom is generally soft of fine grey sand with broken shells and occasional mud spots with some coarse sand, gravel and small pebbles, especially to the Eastward. The rocks of the ledges outside are generally sharp and covered with moss, while those inshore are smooth and covered with kelp.

53. Kelp is found on the rocks and ledge about Eastern Point, about Norman's Woe Rock and thence in an irregular line over the rocks and ledges to Cedar Point and on to Kettle Island. The bot-

- tom of Magnolia harbor is covered with it and Eel grass. Eel grass is also found off Goldsmith's Point and in Kettle Cove. In the irregular space to the Westward of Saddle Rock, Crow Island, Town Head and out to Great Egg Rock, including [illegible] Ledge, the White Rocks to Eastward of Graves Island, the ledges about the private buoy and Little Rocks, kelp is also found. Again to the southward of Pickworth's Point, in Lobster Cove and out over Pickets Ledge and the large ledge to the southward of it.

54. Sand is found on all the beaches from Magnolia to Pickworth's Point.

55. Tidal Stations. The tidal station used throughout the survey is the one on Ten Pound Island in Gloucester Harbor and is the same as determined by Lieut. Low in the Eagle in 1894. It depends upon comparisons made with the tide gauge in Salem Harbor and the datum agrees with the data used by Lieut. Colby in 1881. Other stations were not considered necessary as the distance between Gloucester and Salem is only [illegible] miles, the tides very regular and the difference in rise and fall about 0.02 of an inch. However, to carry out the instructions a station was established at Magnolia, near the center of

the field of work, and the tidal data found is submitted herewith. The difference is not thought sufficient to change the notation of soundings which has already been made. A bench mark was established at this point when the gauge was first set up, but extensive tides were running at the time and it was found necessary to shift the position of the gauge. After the comparisons were taken an accidental defacement of the chance to have up the bench mark again.

56. Tidal Currents. The permanent current outside is to the southward: a buoy from off Boar's Head was picked up at Block Island and other similar cases have been known. The flood tide sets to the northward and the ebb tide to the eastward, both parallel with the coast, and finally in and out of harbors. All tides are greatly affected by the winds.

57. Landmarks. There are several prominent buildings which, if charted, would assist greatly in the navigation of this coast. Their names, locations and characteristics are given with the recommendation that they be placed upon the new chart.

58. Ocean-side Hotel, Magnolia. The square tower

of this hotel is an excellent landmark, owing to its prominence and lack of recognition: it is square and open below a pyramidal top. It is marked on the projection as Station Cup. The Hotel Magnolia, about 100 meters to the northward and Westward, is larger but not so good a landmark.

59. Station White. This is the house of a Mr Wells and is located on the bluff on Goldsmiths Point, overlooking Magnolia Harbor. It is a new house, painted a light gray with white trimmings and has a low conical shaped tower of the same color.

60. The house of Senator McMillan, located on Eagle Head is a large, prominent, square, red house with a white veranda extending across its front.

61. The Masconomo Hotel in Manchester. This is a long dark, red building, with a square cupola, located back of Singing Beach. Fishermen refer a number of bearings to it and it was located by cuts taken from off shore.

62. A new building, an immense Establishment 200 feet long, just built on very high ground to the Westward of Manchester, is very prominent from off shore. It has not yet been painted and

is light buff in color at present. It was located by cuts taken from off them and is the property of Mr W. B. Walker, the son-in-law of Armour of Chicago.

63. Magnolia Harbor. The Town of Magnolia is of recent date and is quite an important and beautiful summer resort. It has four large hotels and many private cottages, with about 300 permanent inhabitants which is increased in summer to 3000.

It has a small but quite secure harbor with a bottom of sand and small boulders, and, if buoyed, could be frequented by many yachts which now avoid the locality owing to the unchartered dangers.

These were all developed and by placing buoys on each end of the bar and on Harbor, Cove and Mill Ledges the passage into and from the harbor would be made very safe. Two channels lead into it from the South-East and one from the South-West. The South-East Channels could each be marked by a single buoy on the ends of the bar and these in connection with those recommended on Harbor, Cove and Mill Ledges would be all that are required.

It would be simply a harbor for yachts in summer.

64. An anchorage, with rocky bottom, can be found to the Eastward of Great Egg Rock and to the Northward of Little Island, but the protection from southerly and southwesterly gales and sea is not good.

65. No stranger should ever venture inside of a line drawn from Pepplestone Ledge to Little Island, Great Egg Rock, Paddocks' Rock and Gales Ledge until a proper chart is made of the locality. This is a favorite resort for yachtsmen who desire to visit the locality in summer, although many come to grief. One when, warned recently by a fisherman, answered, "I'll let you know about it, see this chart of the Coast Survey."

66. The information called for by the General Instructions for Hydrographic Parties is given quite fully in "Coast Pilot, Atlantic Coast, Part III, From Cape Ann to Point Judith", but a few notes are added for the same:

67. Aspect of the Coast. The coast from seaward has such prominent marks that there should never be a mistake as to the locality; Thatcher's Island with its two lights, Bakers Island with its two, and Half

way Rock. In between lie Gloucester, Magnolia and Manchester, in the order named from the Eastward. The coast is not mountainous but high, rocky and wooded, although not thickly so to the Eastward of Gloucester.

In getting well in the Standpipe to the Eastward of Gloucester, the churches and buildings of the latter, the light-house on Eastern Point, the square, pyramidal topped tower of the Ocean-side Hotel in Magnolia, and the Standpipe of Manchester with Kettle Island and Great Egg Rock should never allow a mistake.

68. Sailing directions. Under Buoys. "Eastern Point Ledge, Dog Bar and Round Rock shoal". During northeasterly and southerly gales dangerous heavy breakers are found in these ledges

In the cyclone of October 11th, 12th and 13th heavy breakers formed an unbroken line from Eastern Point to and beyond Round Rock shoal. In this same cyclone the sea broke with great fury in an irregular line from the bell buoy, off Norman's Woe Rock, to the Manchester ledges off Norman's Woe, Poppleston, Ragged Ledge and Kettle Island

69. Prevailing winds, gales, etc. The prevailing winds in the Spring are from the Eastward; in the summer, from the Southward and Westward; in the fall, they go around the

compass; and in winter, from the Northwest. The heaviest gales are from Northeast, Southeast and Southwest. All cause a sea but Southwest and Southeast gales make the anchorage uncomfortable at times. The Northeast gales are most destructive on account of their lengths. Southeast gales are short, 6 to 12 hours, but get up a heavy sea very quickly, in an hour's time, and the Southwesterly gales are always as bad.

70. Steamers vessels never encounter a storm on this coast.

71. "Gilbert's Hospital and Home for the Aged" is being built in Gloucester and when finished will be available for seamen.

72. The Quarantine Station for Gloucester is on the Pavilion in South-East Harbor.

73. There is no branch Hydrographic Office and no time ball

74. A Public Landing is maintained in Gloucester Harbor during the summer months at the foot of Prospect Street.

75. The foreign trade of the port of Gloucester is small and generally carried on by small vessels. Lumber, wood, Eggs and potatoes are brought in from

stora soda and salt from Sicily. The salt is generally bought in steamers and barks. These vessels generally carry away fish, the only export of the port.

76. Harbor Regulations and Pilot Fees. Copies of the Regulations of the Harbor of Gloucester and Rates of Pilotage for the same are enclosed with other data of the survey in separate packages.

77. Encloses plans to fill Form 11, Statistics of the Fish of Mass.

Very respectfully,

A. Dunbar

Lt. Comdr. U.S. Navy,

Chief of Party, U.S.C.&G.S.

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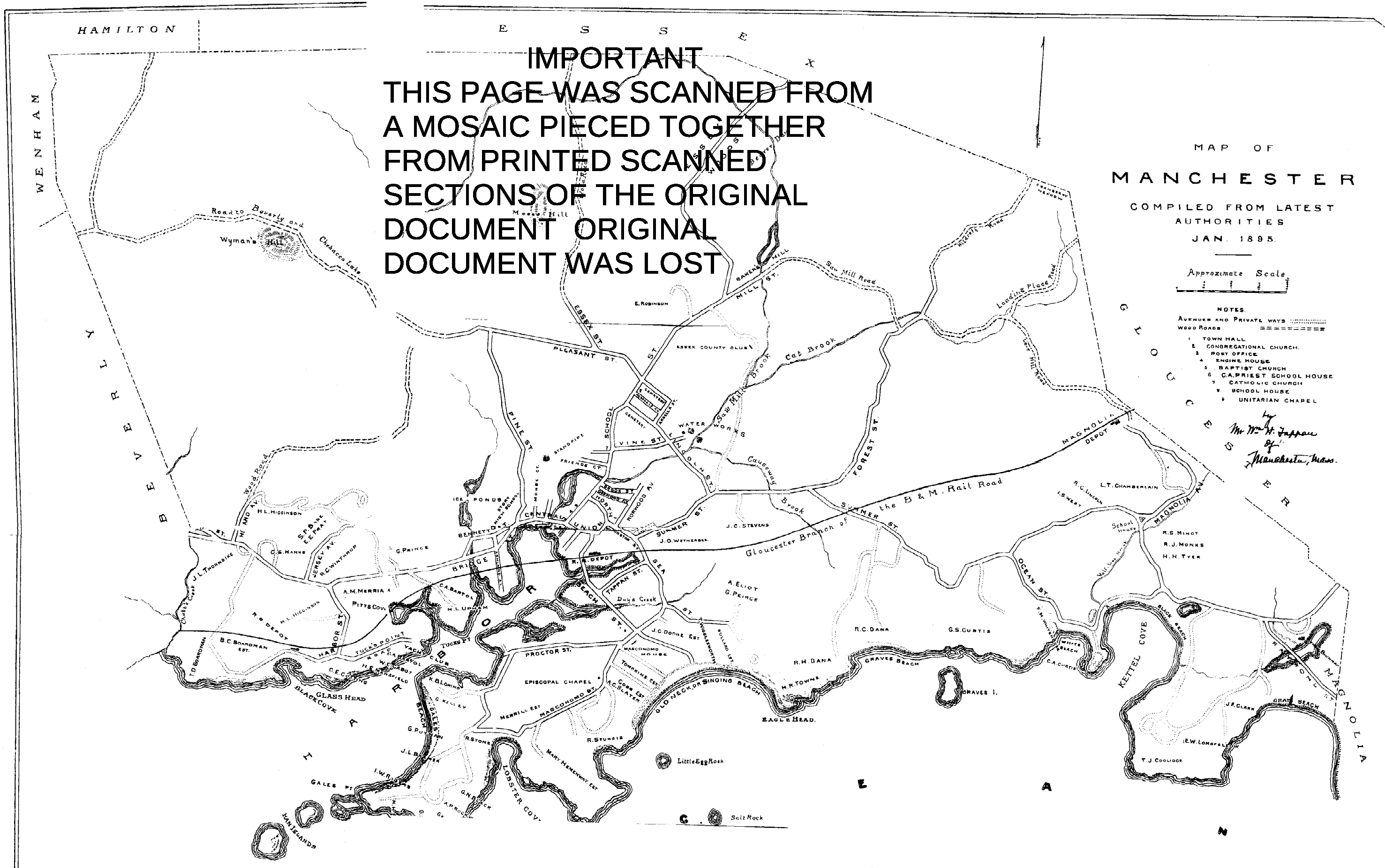

OUTWARD RATES.			INWARD RATES.		
Draft Water Feet.	Rate per ft. $	Amount. $	Draft Water Feet.	Rate per ft. $	Amount $
7	1.50	10.50	7	1.50	10.50
8	1.50	12.00	8	1.50	12.00
9	1.50	13.50	9	1.50	13.50
10	1.50	15.00	10	1.50	15.00
11	1.50	16.50	11	1.50	16.50
12	1.78	21.36	12	2.85	34.20
13	2.00	26.00	13	2.95	38.35
14	2.00	28.00	14	3.45	48.30
15	2.10	31.50	15	3.50	52.50
16	2.25	36.00	16	3.55	56.80
17	2.50	42.50	17	3.75	63.75
18	2.75	49.50	18	3.80	68.40
19	3.00	57.00	19	4.00	76.00
20	3.25	65.00	20	4.25	85.00
21	3.50	73.50	21	4.50	94.50
22	3.75	82.50	22	4.50	99.00
23	4.00	92.00	23	5.00	115.00
24	4.25	102.00	24	5.00	120.00
25	5.00	125.00	25	5.00	125.00

Rates of Pilotage for Gloucester Harbor.

ACT OF APRIL 23, 1873.

OUTWARD RATES.			INWARD RATES.		
Draft Water Feet.	Rate per ft. $	Amount. $	Draft Water Feet.	Rate per ft. $	Amount. $
7	1.50	10.50	7	1.50	10.50
8	1.50	12.00	8	1.50	12.00
9	1.50	13.50	9	1.50	13.50
10	1.50	15.00	10	1.50	15.00
11	1.50	16.50	11	1.50	16.50
12	1.78	21.36	12	2.85	34.20
13	2.00	26.00	13	2.95	38.35
14	2.00	28.00	14	3.45	48.30
15	2.10	31.50	15	3.50	52.50
16	2.25	36.00	16	3.55	56.80
17	2.50	42.50	17	3.75	63.75
18	2.75	49.50	18	3.80	68.40
19	3.00	57.00	19	4.00	76.00
20	3.25	65.00	20	4.25	85.00
21	3.50	73.50	21	4.50	94.50
22	3.75	82.50	22	4.50	99.00
23	4.00	92.00	23	5.00	115.00
24	4.25	102.00	24	5.00	120.00
25	5.00	125.00	25	5.00	125.00

REGULATIONS

——OF THE——

Harbor of Gloucester.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows :

SECTION 1. The mayor and aldermen of the city of Gloucester may annually appoint a harbor master for the harbor of said city, who shall hold said office for one year, and until his successor is appointed. Before entering on said office he shall give a bond to said city for the prompt and faithful discharge of his duties, in a penal sum of five hundred dollars, with sureties to the satisfaction of said mayor and aldermen. He may appoint a deputy whenever the mayor and aldermen deem it necessary, such appointment to be subject to their approval. He and his said deputy shall have the powers and duties, and shall enforce the regulations and penalties, set forth in the last twelve sections of chapter sixty-nine of the Public Statutes, and in this act, and in any other laws which are or may be in force applicable to said office and to said harbor. He shall be paid out of the treasury of said city such compensation as the city council shall from time to time determine.

SECT. 2. From Ten Pound Island to Five Pound Island, a sufficient passageway of not less than two hundred feet in width on the northerly side of said harbor, leaving Babson's Ledge Buoy on the port hand going in, and a passageway of not less than one hundred and fifty feet in width from any wharf in Upper Cove, Smith's Cove and Harbor Cove in said harbor, shall be at all times kept open for the passage of vessels; and no vessel shall be anchored or allowed to lie at anchor in said passageways, or in the track of the ferry boats running regularly in said harbor.

SECT. 3. At least one man shall at all times be kept on board each vessel at anchor in said harbor, and a clear and distinct light shall be kept suspended not less than six feet above the deck of every such vessel during the night.

SECT. 4. For each violation of the provisions of this act the owners or master of the vessel concerned, as well as the person or persons directly offending, shall be liable to a penalty of twenty dollars, to be recovered by complaint or indictment to the use of said city; and shall also be liable in an action of tort to any person suffering damage by reason of such violation.

SECT. 5. Chapter three hundred and sixty-five of the acts of the year eighteen hundred and fifty-three, entitled "An act relating to the Harbor of Gloucester," and chapter one hundred and forty-three of the acts of the year eighteen hundred and sixty-nine, being an act to amend said last-named act, are hereby repealed; but such repeal shall not effect the tenure of office of the present harbor master of said city, who shall have the same powers and duties as if appointed under this act.

SECT. 6. This act shall take effect upon its passage. [*Approved June* 11, 1885.]

JOHN M. ANDERSON, Harbor Master.

[CHAPTER 8, ACTS OF 1881.]

AN ACT IN RELATION TO HARBOR MASTERS.

Be it enacted, &c., as follows :

SECTION 1. A harbor master, for whose appointment there is no existing provision of law, may be appointed for any harbor in the Commonwealth by the mayor and aldermen of the city or by the selectmen of the town in which such harbor is situate, who shall fix the compensation of such harbor master, to be paid by said city or town. The harbor master so appointed shall continue in office until his successor is appointed.

SECT. 2. All vessels entering any harbor for which such harbor master is appointed shall be anchored according to his direction.

SECT. 3. Every vessel, before unloading lumber in the stream or channel of any harbor having a harbor master, shall obtain a permit from said harbor master, designating where such lumber may be rafted to avoid obstructing the channel or hindering the movements of other vessels.

SECT. 4. Every vessel lying in any harbor or at any wharf or pier in the same, shall, when directed by the harbor master thereof, cockbill the lower yards, brace the topsail yards fore and aft, and rig in the jib-boom.

SECT. 5. The harbor master of any harbor may cause to be moved any vessel lying in the same and not anchored according to his directions and not moving when directed by him so to do, and the expense thereof shall be paid by the master or owners of such vessel ; and in case of neglect or refusal to pay after the same shall have been demanded, said expense may be recovered of said master or owners by said harbor master to the use of the city or town in which said harbor is situated in an action of contract.

SECT. 6. No person shall throw or deposit in any harbor any stones, gravel, ballast, cinders, ashes, dirt, mud or other substance, which may in any way tend to injure the navigation thereof.

SECT. 7. No warp or line shall be passed across any channel or dock so as to obstruct vessels passing along the same.

SECT. 8. If any vessel occupying a berth at any wharf or pier, either with or without the consent of the wharfinger thereof, shall fail to vacate such berth upon notice from such wharfinger or his agent to the master or those having such vessel in charge for the time being, in a reasonable time, to be adjudged by the harbor master, the harbor master shall then cause such vessel to be moved to some other berth or anchored in the stream, and the expense thereof may be collected of the master or owners thereof, by the harbor master, to the use of the city or town in which said harbor is situate in an action of contract.

SECT. 9. Harbor masters shall have authority in their respective harbors to regulate and station all vessels in the stream or channel thereof, and to remove such as are not employed in receiving or discharging their cargoes, to make room for such others as require to be more immediately accommodated for the purpose of receiving or discharging their cargoes ; and as to the fact of their being fairly and actually employed in receiving or discharging their cargoes, the harbor master shall determine.

SECT. 10. Whoever shall refuse or neglect to obey the instructions of any harbor master lawfully given, or shall resist him in the execution of his duties, shall forfeit and pay a fine not exceeding fifty dollars.

SECT. 11. Harbor masters shall report to the harbor and land commissioners any violation of the sixth section of this act, or of any law relating to tide water in their respective harbors that shall come to their knowledge.

SECT. 12. Any person violating the provisions of this act, in addition to any fines imposed in accordance therewith, shall be liable in an action of tort to any person suffering damage by such violation.

SECT. 13. This act shall take effect upon its passage.

[*Approved February 9, 1881.*]

City of Gloucester.

Rules and Regulations

OF THE

HARBOR MASTER.

Shipmasters will please report any violations of the within rules and regulations at the office, SAWYER BLOCK.

U. S. COAST AND GEODETIC SURVEY.

Geo. W. Dubfield Superintendent.

State: Massachusetts.

DESCRIPTIVE REPORT.

Stylus Sheet No. 2269.

LOCALITY:

Off North Shore
Massachusetts Bay.

1896.

CHIEF OF PARTY:

Lieut. Comdr. A. Dunlap, U.S.N.

Copy

JUL 17. [illegible] 23353

FORM 65.—Field Letter.

Write me at: Station "C" Baltimore Md.

Telegraph me at:

My Express Office is:

U. S. COAST AND GEODETIC SURVEY.

Steamer Blake,

29th. December, 1896.

2—547 # 151.

Descriptive Report.

To the Superintendent,
U. S. Coast and Geodetic Survey,
Washington, D. C.

Sir:

1. I have the honor to submit the following descriptive report of the hydrographic work executed by the party under my command during the months of August, September and October under your instructions, dated the 8th of August, 1896, and the detailed instructions of the Hydrographic Inspector, dated the 10th of August 1896.

2. The following projections, tracings, tidal data, etc, were received from the Hydrographic Inspector for the execution of this work, viz:

One (1) projection, scale 10000, Coast of Massachusetts between Baker's Island and Gloucester.

One (1) Sheet, descriptive of triangulation stations falling on the above projection.

Six (6) descriptives of tidal bench mark off the Coast of Massachusetts.

One (1) sheet, Geographic positions of Δ^{s} falling on pro=

One (1) tracing of Gloucester and vicinity from work of Lieut. Low in 1894.

One (1) tracing from Hydrographic sheet 2226 by Lieut. Peck in 1895.

One (1) copy of chart N. 335, showing location of Stand-pipe at Manchester.

One (1) sheet, Angles taken to locate the Standpipe at Manchester.

3. Some discrepancies were found in the Angles taken from the triangulation stations at Baker's Island and Great Misery and they were reported to the Hydrographic Inspector on the 19th and 24th of August last. The angles taken from the triangulation stations on Baker's Island and Eastern Point more nearly agreed and gave better conditions and were assumed to be correct.

4. No angles could be taken from Manchester Church on account of being unable to reach a point sufficiently elevated from which other stations could be seen, this due to the growth of trees and foliage. The triangulation station on Kettle Island could not be found and it was not found by the party of Lieut. Peck in 1895. A signal, however, was erected in what was considered to be the same place as that used by Lieut Peck. The loss of this triangulation point is probably due to disintegration of the granite rock in which the bolt was placed. The signals erected by Lieut. Peck in 1895 had been destroyed,

with few exceptions, probably by the severe gales of the past winter.

5. On the 30th. of September I made a special report of dangers to navigation which fishermen had kindly reported to me while making inquiries among them; A supplementary report was made on the 2nd of October in regard to the location of the buoys and break-water at the entrance to Gloucester Harbor; and a report was also made on the 17th of October in regard to the proper name of the ledge located off Magnolia, Mass.

6. The survey was begun with a system of right angled intersection of lines 100 metres apart, but the ground was so broken and soundings so irregular that a very close development with double diagonal intersections was carried over many of the shoal places. Off shore where the water was quite deep this was not considered so important.

7. The fishermen about Manchester, Magnolia and Gloucester gave a great deal of assistance and those from Magnolia often put themselves out in going along, at my request, in our boats or their own to locate rocks, ledges and shoals. No charge was ever made for services of this kind and I am indebted to them for much valued information and especially to Capt. Wm S. Douglass of Magnolia, Mass. I would suggest that when the chart of this locality is finished that copies be sent to the following named fishermen who gave informations and assistance: Capt. Wm S. Douglass, Messrs John B. Knowlton, Charles Lewis, Henry K. Story, John C. Burnham and J. W. Nichols of Magnolia, Mass.

Edward Heath and Charles Sargent of Manchester, Mass.; Capt. Merchant of Fresh Water Cove, Gloucester, and Mr. Abe Bates of Rocky Neck, Gloucester, Mass.

8. The charts of this locality give few names of prominent objects, rocks, ledges, points, etc., but fishermen and people of the vicinity have names for each which, as a general rule, have been handed down from one generation to another. I am greatly indebted to Mr. Wm H. Tappan of Manchester, Mass., who is the Surveyor of the town, a former State Senator and the President and historian of the Manchester Historical Society, for a chart showing the names of many of the points, beaches, heads and coves, and for much other valuable information. He states that it has been and is the aim of the society of which he is president and historian to restore the original names to each locality. This chart is enclosed with other data relating to the survey and the names have been assigned to their proper places on the projection subject to your approval. I would suggest that when the chart is finished that a copy be sent to Mr. Tappan.

9 In two instances names, according to fishermen and others, have been improperly placed on the old Coast Survey charts, viz: Little Egg Rock instead of being in close proximity to Great Egg Rock, where there is a bunch of rocks above water, is assigned to a rock 7/8 of a mile W. 7/8 N. which fishermen say is called Rock Dundy. The other name is that of the cove at Magnolia marked on the Coast Survey charts as

Kettle Cove. According to Mr. Tappan and fishermen about Magnolia this name was given to the cove back of Goldsmith's Point as marked on the chart of Manchester given me by Mr Tappan. It is recommended that the names be assigned as above and the name of the cove now called Kettle Cove be changed to Magnolia Cove or Magnolia Harbor, as it is well known to yachtsmen and fishermen by that name already.

10. Gray Beach, Black Beach and White Beach. The beach in Magnolia Harbor is now known there as Crescent Beach, but the proper name according to Mr. Tappan is Gray Beach not Grays Beach as marked on his chart; and by the same authority the one in the next cove to the Westward is Black Beach and the one in the cove beyond Crow Island, the next one to the Westward, is White Beach.

11. Cedar Point. According to Mr. Douglass and others in Magnolia the name of the point on which Magnolia stands is Cedar Point. It derived its name from a large cedar tree which formerly stood there. In several instances lately the point has been known by the name of the person who built the last house near its extreme end, as Goodwin's, Sargent's and Mc Clare's Point. On a road map it is marked "Magnolia Point"

12. Popplestone Beach. The stony beach in the bight just to the Eastward of Cedar Point is known as Popple-stone Beach from the character of the stone forming it. They are worn round and smooth and have been thrown up by the action of the sea: so many have been carried

away by visitors that the owner has forbidden their removal.

13. Rafes Chasm. The chasm in the cliff of Norman's Woe is known as Rafes Chasm

14. Goldsmith's Point. This name is properly placed, although the road map referred to gives the name as "Coolidge's Point."

15. Crow Island. The small, high, rocky promontory, to the Westward of Goldsmith's Point, on which is located a Pole, is known as Crow Island. It was probably an island at high water, at one time, for the road passes over a bridge when it is flooded at extreme tides. Fishermen state this is the name handed down to them and that it has never been known to them by any other name.

16. Town Head. To the Westward of White Beach, as placed on the chart of Mr. Tappan, is a high, wooded bluff called Town Head, from the fact that it was a part of the town farm of Manchester.

17. Graves Beach. The name of Graves Island is properly placed and the sandy beach immediately to the Northward and Westward should be called Graves Beach, as shown on the chart of Mr Tappan.

18. Eagle Head. The high rocky promontory to the Westward of Graves Beach is known as Eagle Head, as shown on the chart of Mr. Tappan.

19. Old Neck or Singing Beach. The beach to the Westward of Eagle Head is shown on the chart of Mr. Tappan as Old Neck or Singing Beach. It is directly to seaward of Manchester and the

Masconomo Hotel. The latter was located by cuts taken from seaward.

20. Ballarach Cove. The cove to the Westward of Singing Beach is properly known as Ballarach, but this has been corrupted by fishermen to Belly Ache.

21. Pickworth's Point. The point just outside of Ballarach Cove to the Westward is known as Pickworths, so called from one of the original setters, John Pickworth, who owned this point.

22. Lobster Cove. The cove to the Westward of Pickworth's Point is known as Lobster Cove.

23. Little Salt Rocks. The small group of rocks inside of Salt Rock, and off Singing Beach, is known to fishermen as Little Salt Rocks.

24. The above names, with few exceptions, are those taken from the chart of Mr. Tappan and are those by which they are known to the inhabitants of the locality.

25. Uncharted ledges, rocks, etc. The names, locations and characteristics of uncharted ledges, rocks, etc. which have been developed in the course of the survey follow. These names are those by which they are known to fishermen and have been handed down from one generation to another and I would recommend their retention.

26. A rocky ledge, without name, was developed about 650 metres S by W ½ W from Norman's Woe Rock and the same distance S.E. ½ S. from Norman's Woe, with a least depth of 4½ fathoms and

deeper water inshore, 7 to 10 fathoms. There are two shoal spots, the least water being on the one to the Eastward; the one to the Westward having from 5 to 6 fathoms over it. The sea breaks here in bad weather and sometimes very unexpectedly in moderate weather. Fishermen call these breakers "blind breakers" from this fact and they are considered very dangerous. To the fishermen these spots, when the sea breaks, are simply known as "Inner" and "Outer Shoal Water". Fishermen set their lobster pots here as well as on all the ledges along the coast near shore

27. Popplestone Ledge. This ledge has already been reported.

28. Ragged Ledge. This ledge runs out to the Southward of Cedar Point, Magnolia, about 3/8 of a mile with a least depth of 7.4 fathoms of water near its outer end. The depths on this locality are very irregular and the bottom is of sharp rocks.

29. Middle Ground. This ledge lies about one mile S.S.E. of Kettle Island, is of very irregular shape, about 750 metres East and West, and about the same North and South; with depths varying from 8 3/4 to 15 fathoms. It is a local fishing ground and the bottom is sharp rocks with coarse sand, pebbles and black specks.

30. Kettle Island Ledge. This ledge lies one half mile outside of Middle Ground in the same direction from Kettle Island, S.S.E; is of greater extend, about 850 metres by 1200 metres, and shoals from 20 to 10 fathoms. A circular spot about 400 metres in diameter varies in depth from 10 to 12 fathoms with a least depth of 9.2 fathoms.

31. One half mile S.S.E. of Kettle Island Ledge is another small ledge, about 400 metres North and South by 200 metres East and West, with depths varying from 20 to 12.2 fathoms, the least depth being at its Southern end. The bottom is of very sharp rocks, a lead was lost on it, with fine sand and mud. Fishermen report that just outside of this, but off the projection, is another ledge called Saturday Nights Shoal.

32. Burnham's Rocks. This rocky ledge lies about 1 7/8 miles S.S.W ½ W. from Eastern Point and about the same distance S.E. 3/4 S. from Kettle Island, and 3/4 of a mile S.E. by E. ½ E. from Kettle Island Ledge. It is about 630 metres North and South by 376 metres East and West, very irregular in shape with two shoal patches, one at the North end the other at the South end; the least water being at the Southern end, 8.4 fathoms. Bottom sharp rocks, very uneven, with coarse sand and Mud.

33. Inner Burnham's Rocks. This ledge lies one half mile N. by W. from Burnham's Rocks, is of small extent and of irregular shape, with from 14.2 to 15 fathoms of water over it. Bottom rocky, coarse sand, mud and pebbles about.

34. Boulders on the Bar. Along the bar, on the seaward side, of Magnolia Cove or Harbor are a number of boulders, varying in size from that of a bucket to a hogshead, with depths of water from 4.6 to 12.2 feet over them with 3 fathoms alongside. These are covered with Kelp.

35. David's Rock. This rock lies near the shore on the Northern edge of the channel leading into Magnolia Harbor. It stands 4½ feet out of water, at low water, with 10 feet alongside, and is covered with Kelp. It was so called in derision from the name of a fisherman who ran on it in his dory, its position being so well known. Fishermen have placed a piece of gas pipe in a hole drilled in the top of this rock and it acts as a spindle.

36. Harbor Ledge. This ledge lies off the wharf, in Magnolia Harbor, in a Southwesterly direction from it, with a line of soundings along its shoalest part showing 6½, 8.4, 12 and 13 feet in its general direction with 3 fathoms about it.

37. Buck Rock. This rock lies inside the wharf at Magnolia and about 10 metres from it. It is awash in extreme tides with 4½ feet alongside and it takes its name from the fact that dories often buck against it when going to and from the wharf.

38. Mill Ledge. A cluster of boulders, of small extent, off Goldsmith's Point; the boulders varying in size from half a barrel to a hogshead. Least water 6.7 feet, with 17 feet alongside.

39. Cove Ledge. This is of small extent and lies in the Southern part of the harbor with a least depth of 12 feet and 15, 16, 17 and 18 feet about. Whenever a very heavy swell or sea runs into the harbor from N.E. or S.E. it breaks here.

40. Stone Ledge. A rocky ledge lying S.W. of Kettle Island

and S.E. of Great Egg Rock with a least depth of 8 fathoms. It was so called after a fisherman, Mr. Otis Stone of Swampscott, who used to fish on it about 75 years ago.

41. Never Fails Ledge. This rocky ledge lies a short distance N.E. from the inner end of Great Egg Rock with a least depth of 16.9 feet with 4 and 5 fathoms around it. It was so called from the fact that fishermen generally caught a few cod here when they failed elsewhere.

42. Saddle Rock. This is the name of a large rock, just clear of the shore and a few feet out of water at all times. It lies S.W. of Goldsmith's Point, is reddish brown in color and takes its name from the shape of its top.

43. Old Spirit Rock. This lies in line between Saddle Rock and Crow Island and about half way. It is covered with and surrounded by kelp and has 1½ feet of water over it at mean low water with 7 feet alongside. During extreme tides it comes out of water.

44. Crow Island Rock. This rock lies S.S.W. of Crow Island about 220 metres. It has 2½ feet of water over it at mean low water with 15 feet alongside. It is covered with and surrounded by kelp and during extreme tides shows above water.

45. Kitfields Ledge. This ledge lies S.W. of Crow Island with a least depth of 2½ fathoms. It is covered with kelp and Crow Island Rock is situated on it. Its name was derived from the fact

that an old woman, Granny Yeitfield by name, used to fish for cod upon it with much success.

46. An uncharted ledge lies N.E. of Little Rocks, inside of Great Egg, with three boulders, two of which have been known to show at extremely low tides. The soundings show 4.6, 5.5, and 5.6 feet of water over them at mean low water. The ledge runs in a Southwesterly direction and is covered with kelp. A private buoy is maintained on its Eastern end by Mr Edward Heath of Manchester, who owns fishing nets at the Western end of Graves Island.

47. A ledge with 3 fathoms 5½ feet on it and 4, 5 and 6 fathoms about it was developed S.S.W. of Salt Rocks and East of Pickets Ledge.

48. A large ledge was developed directly South of Pickets Ledge with a least depth of 11 feet with soundings of 12, 13½, 15 and 17 feet scattered over its surface. It is of quite large extent and runs in the direction of Gales Ledge and could be considered either a part of that or of Pickets Ledge. It is covered with kelp.

49. Paddocks Rock. This ledge has already been reported.

50. Little Rocks, Boo hoo and Pickets Ledges were fully developed. Little Rocks with the ledge surrounding it is covered with kelp and lies N.N.W. of Great Egg. A passage is found between but is generally obstructed by fishing nets.

51. Coles Ridge. Near the S.W. corner of the projection,

outside of the Salem channel, is a ledge of sharp rocks known as Coles Ridge. It has a least depth of 12 fathoms over it with a hard bottom, fine grey sand and mud with moss on the rocks.

52. The character of the bottom. The bottom along this coast, as developed by the survey and from information gathered among fishermen, shows that the whole area is scattered over with granite boulders varying in size from a cobble stone to 15 or 20 feet in diameter. The ledges are formed of these boulders of various sizes and the great variation in depths is due to their presence. Inshore and off for a mile and a half the bottom is hard with coarse grey sand, gravel, pebbles and broken shell to the Eastward; while to the Westward, and out for two miles or more, it is hard with fine grey sand, broken shells and black specks. Outside of this the bottom is generally soft of fine grey sand with broken shells and occasional mud spots with some coarse sand, gravel and small pebbles especially to the Eastward. The rocks of the ledges outside are generally sharp and covered with moss, while those inshore are smooth and covered with kelp.

53. Kelp is found on the rocks and ledges about Eastern Point, about Norman's Woe Rock and thence in an irregular line over the rocks and ledges to Cedar Point and on to Kettle Island. The bottom of Magnolia harbor is covered with it and Eel grass. Eelgrass

is also found off Goldsmith's Point and in Kettle Cove. In the irregular space to the Westward of Saddle Rock, Crow Island, Town Head and out to Great Egg Rock, including Kitfield's Ledge, the White Rocks to Eastward of Graves Island, the ledges about the private buoy and Little Rocks, Kelp is also found. Again to the Southward of Pickworth's Point, in Lobster Cove and out over Pickat's Ledge and the large ledge to the Southward of it.

54. Sand is found on all the beaches from Magnolia to Pickworth's Point.

55. Tidal Stations. The tidal station used throughout the Survey is the one on Ten-Pound Island in Gloucester Harbor and is the same as determined by Lieut. Low in the Eagre in 1894. It depends upon comparisons made with the tide gauge in Salem Harbor and the data agrees with the data used by Lieut. Colby in 1881. Other stations were not considered necessary as the distance between Gloucester and Salem is only 11¼ miles, the tides very regular and the difference in rise and fall about 0.02 of an inch. However, to carry out the instructions a station was established at Magnolia, near the centre of the field of work, and the tidal data found is submitted herewith. The difference is not thought sufficient to change the reduction of soundings which had already been made. A bench mark was established at this point where the gauge was first set up, but extreme tides were running at the time and it was found necessary to shift the

position of the gauge. After the comparisons were taken an accident deprived of the chance to level up to the bench mark again.

56. Tidal Currents. The permanent current outside is to the Southward: a buoy from off Boar's Head was picked up at Block Island and other similar cases have been known. The flood tide sets to the Westward and the ebb tide to the Eastward, both parallel with the coast, and directly in and out of harbors. All tides are greatly affected by the winds.

57. Landmarks. There are several prominent buildings which, if charted, would assist greatly in the navigation of this coast; their names, locations and characteristics are given with the recommendation that they be placed upon the new chart.

58. Ocean-side Hotel, Magnolia. The square tower of this hotel is an excellent landmark, owing to its prominence and ease of recognition: it is square and open below a pyramidal top. It is marked on the projection as Station Cup. The Hotel Magnolia, about 100 metres to the Northward and Westward is larger but not so good a landmark.

59. Station White. This is the house of a Mr. Wells and is located on the bluff on Goldsmith's Point, overlooking Magnolia Harbor. It is a new house, painted a light Grey with white trimmings and has a low cone shaped tower of the same color.

60. The house of Senator Mc. Millan, located on Eagle Head is a large, prominent, square, red house with a white veranda extending accross its front.

61 The Masconomo Hotel in Manchester. This is a long dark, red building, with a square cupola, located back of Singing Beach. Fishermen refer a number of bearings to it and it was located by cuts taken from off shore.

62. A new building, an immense establishment 200 feet long, just erected on very high ground to the Westward of Manchester, is very prominent from off shore. It has not yet been painted and is light buff in color at present. It was located by cuts taken from off shore and is the property of Mr. W. B. Walker the son-in-law of Armour of Chicago.

63. Magnolia Harbor. The town of Magnolia is of recent date and is quite an important and beautiful summer resort. It has four large hotels and many private cottages, with about 300 permanent inhabitants which is increased in summer to 3000. It has a small but quite secure harbor with a bottom of sand and small boulders, and, if buoyed, would be frequented by many yachts which now avoid the locality owing to the uncharted dangers. These were all developed and by placing buoys on each end of the bar and on Harbor, Cove and Mill Ledges the passage into and from the harbor would be made very safe. Two channels lead into it from the South-East

and one, from the South-West. The South-East channels could each be marked by a single buoy on the ends of the bar and these in connection with those recommended on Harbor, Cove and Mill Ledges would be all that are required. It would be simply a harbor for yachts in summer.

64. An anchorage, with rocky bottom, can be found to the Eastward of Great Egg Rock and to the Northward of Kettle Island, but the protection from Southerly and Southwesterly gales and sea is not good.

65. No stranger should ever venture inside of a line drawn from Popplestone Ledge and Kettle Island, Great Egg Rock, Paddocks Rock and Gales Ledge until a proper chart is made of the locality. This is a favorite resort for yachtsmen who desire to visit the locality in summer, although many come to grief. One, when warned recently by a fisherman, answered, "Little you know about it, see this chart of the Coast Survey."

66. The information called for by the General Instructions for Hydrographic Parties is given quite fully in "Coast Pilot, Atlantic Coast, Part III, From Cape Ann to Point Judith," but a few notes are added for the same.

67. Aspect of the Coast. The coast from seaward has such prominent marks that there should never be a mistake as to the locality; Thatcher's Island with its two lights, Bakers Island with its two, and

Halfway Rock. In between lie Gloucester, Magnolia and Manchester, in the order named from the Eastward. The coast is not mountainous but high, rocky and wooded, although not thickly so to the Eastward of Gloucester. On getting well in the Standpipe to the Eastward of Gloucester, the churches and buildings of the latter, the lighthouse on Eastern Point, the square pyramidal topped tower of the Ocean-side Hotel in Magnolia, and the Standpipe of Manchester with Kettle Island and Great Egg Rock should never allow a mistake.

68. Sailing Directions. Under Dangers. "Eastern Point Ledge, Dog Bar and Round Rock Shoal." During Northeasterly and Southerly gales dangerous heavy breakers are found on these ledges. In the cyclone of October 11th, 12th, and 13th, heavy breakers formed an unbroken line from Eastern Point to and beyond Round Rock Shoal. In this same cyclone the sea broke with great furry in an irregular line from the bell buoy, off Norman's Woe Rock, to the uncharted ledges off Norman's Woe, Popplestone, Ragged Ledge and Kettle Island.

69. Prevailing winds, gales, etc. The prevailing winds in the spring are from the Eastward; in the summer, from the Southward and Westward; in the fall, they go around the compass; and in winter, from the Northwest. The heaviest gales are from North-East, South-East and South-West. All soon raise a sea but South-East and South-West gales make the anchorage uncomfortable at times. The North-East gales are most destructive on account of their length. South-East gales are short,

6 to 12 hours, but get up a heavy sea very quickly, in an hour's time, and the South-Westerly gales are almost as bad.

70. Stranded vessels never survive a storm on this coast.

71. "Gilbert's Hospital and Home for the Aged" is being built in Gloucester and when finished will be available for seamen.

72. The Quarantine station for Gloucester is on the Pancake in South-East Harbor.

73. There is no branch Hydrographic office and no time ball.

74. A Public Landing is maintained in Gloucester Harbor during the summer months at the foot of Prospect Street.

75. The Foreign Trade of the port of Gloucester is small and generally carried on by small vessels. Lumber, wood, eggs and potatoes are brought in from Nova Scotia and salt from Sicily. The salt is generally brought in steamers and barks. These vessels generally carry away fish, the only export of the port.

76. Harbor Regulations and Pilot Fees. Copies of the Regulations of the Harbor of Gloucester and Rates of Pilotage for the same are enclosed with other data of the survey in separate packages.

77. Enclosed please to find Form 11, statistics of the Field of Work.

Very respectfully

A. Dunlap

Lieut. Comdr. U.S. Navy

Chief of Party, U.S. C. & G. S.

Forwarded.

E. D. Taussig, Lt Com'd'r, U. S. N.,
Hydrographic Inspector C. & G. Survey.

Verification of additional to Hyd. 2269

This examination of Saturday Night Ledge and Burnham Rocks gives about the same results as the survey of 1896, Hyd. 2269 — The minimum depths remain unchanged; viz. 74 ft. & 52 ft respectively —

The sweep was not used on this work; however, there is little or no reason to suppose that much shoaler depths would have been found by that means —

The omission of Saturday Night Ledge from C.C. #109 has been noted on Hyd. Sec. Standard —

J. L. Watkins

12-15-05

ADDRESS ALL COMMUNICATIONS TO
SUPERINTENDENT, COAST AND GEODETIC SURVEY,
WASHINGTON, D.C.

EM

Department of Commerce and Labor
COAST AND GEODETIC SURVEY
Washington

November 28, 1905.

REFERRED TO
DRAWING SECTION.
12-15-05

Mr. Andrew Braid,

Assistant in charge of the Office.

Sir:-

I forward herewith Hydrographic Sheet No. 2269, "North Shore of Mass. Bay, Eastern Point to Manchester", by Lt. Comdr. Dunlap in 1896. Will you kindly have verified in the Office of the Inspector of Charts the new work by Derickson in 1905 which has been added to this sheet.

Respectfully,

Assistant and Chief, Drawing and Engraving Division.

12-15-05

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